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CHIPMUNK

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The eastern chipmunk is a small, agile rodent found throughout Pennsylvania. Colloquial names include grinny, chippie, hackie, and rock squirrel. A member of the squirrel family (*Sciuridae*), the chipmunk is closely related to red, gray, fox, and flying squirrels, and, surprisingly, the woodchuck.

The chipmunk's taxonomic name is *Tamias striatus* (*tamias* means collector and storer of provisions, and *striatus* refers to the animal's prominent body stripes). The species ranges from Quebec south to northern Florida and Louisiana, and from the eastern seaboard west to Oklahoma, Kansas, the Dakotas, and Saskatchewan.

BIOLOGY

Adult chipmunks are 8-10 inches long (including a 3-4 inch tail) and weigh 2½-4 ounces. Sexes are the same size.

A chipmunk's head is blunt, with rounded, erect ears. The legs are short. Each hindfoot has five clawed toes, and each forefoot four clawed toes and a fifth, thumb-like digit with a soft, rounded nail. The tail is well-furred and flattened. The front incisor teeth are broad and chisel-shaped like those of other rodents. A chipmunk has internal cheek pouches for carrying food or excavated dirt.

The short, dense body fur is colored alike for both sexes: reddish brown sprinkled with black and white hairs, brightest on the rump and flanks. Cheeks and sides of the body are grayish tan to tawny brown, and the underparts are whitish.

The most prominent field marks are five dark brown to blackish stripes on the back and sides. The narrowest stripe centers on the backbone, while on each side from shoulder to rump two more dark stripes sandwich a cream-colored band. On the sides of the face two buffy stripes outline the eye, and a black stripe runs through it.

Adults molt in late spring or early summer and again in late fall or early winter. Winter pelage is slightly paler than summer. Albino and melanistic individuals occur.

Chipmunks are graceful and spry, quick to dart for their underground burrows when startled. They run with their bushy tails held straight up. Although largely ground-dwelling, they sometimes climb trees, descending head first in squirrel-like leaps. Their senses of sight and hearing are keen. When eating they often perch on stumps, rocks or logs, to survey their surroundings.

Tamias striatus is a vocal creature. It sounds a loud, repetitive "chip" similar to a robin's note; a more rapid chipping (three or four chips per second, perhaps to warn

other chipmunks away from its individual territory); and a single, sharp alarm whistle.

Chipmunks are omniverous. They feed on nuts, (acorns, hickory nuts, beechnuts) and seeds of woody and herbaceous plants including cherry, box elder, maples, shadbush, dogwood, viburnum, ragweed, wintergreen, and wild geranium. They also eat mushrooms, berries, corn, and the flesh and seeds of apples, peaches, pears, and garden vegetables. Birds' eggs, insects, snails, earthworms, millipedes, salamanders, small snakes, frogs, and young mice and birds supplement the vegetable diet.

Chipmunks eat food on the spot (evidenced by piles of shelled seeds or nut fragments) or carry it away for hoarding. A chipmunk can transport large amounts of food: one observer noted 31 corn kernels, another 32 beechnuts, and a third 70 sunflower seeds in the cheek pouches. A chipmunk uses its forepaws to manipulate food for eating or transporting.

Food foraging and other above-ground activities are carried on during daylight. Chipmunks are most active in early morning and late afternoon. In hot weather they spend much time in their cool underground burrows; this mid-summer adaptation is called estivation.



A chipmunk's activities and individual territory center on its burrow, which may be simple or intricate. The entrance, about two inches wide, is usually hidden under a rock, tree stump, log, or at the base of a fencepost or stone wall. Burrows plunge straight down for several inches, then level off and extend 30 feet or more, sometimes branching into offshoot tunnels with separate entries.

Chipmunks dig their burrows, pushing or carrying excavated dirt away from the entrance. Somewhere in the system is a foot-square nest chamber lined with crumbled dry leaves and grass. A chipmunk stashes nuts, seeds, corn, etc., under the leaf bed or in a storage chamber nearby.

In autumn, chipmunks gather winter food, storing it in their burrows or in above-ground caches in their home territories. They do not enter winter with a thick layer of body fat, as do true hibernators. In late October or early November, they go underground to live on stored food until spring.

Wintering behavior varies. In Canada, 63 percent of the chipmunks biologists studied became torpid to some degree. Another research cited 30 percent as becoming torpid and classified 60 percent as nonhibernating. In two studies, inactive periods lasted from 1-8 days.

Chipmunks plug their den entrances when they go underground. They sleep much of the winter, waking periodically to eat. On still, sunny days they may leave the den briefly. Some emerge to breed in late February or early March, but snow and cold may drive them back into dormancy.

By late March, breeding is in full swing. Gestation takes 31 days; females bear 1-8 (usually 4-5) young from mid-April to mid-May, using their nests as brood chambers. A female may bear two litters per year, the second in late July or early August. Most females mature sexually by the time they're a year old; males from spring litters can breed at age one, while those born in summer mature at 7-8 months.

At birth, young are blind and naked, about 2½ inches long and weighing about one-tenth of an ounce. After approximately one week, their body stripes are visible. Eyes open after a month, and in another 30 days the half-grown young leave the nest and begin foraging with their mother. The male plays no role in raising young.

Adults without young are solitary. Larger individuals dominate smaller ones; females in estrus or with young in the nest are more aggressive than other females and males.

Home ranges of adult males are slightly larger than those of adult females (0.37 vs. 0.26 acres); ranges of immatures of both sexes average 0.18 acres. Home ranges overlap, and each animal defends a territory around its burrow entrance.

Hawks, minks, weasels, foxes, bobcats, house cats, raccoons, and snakes prey on chipmunks. Fleas, lice, mites, internal worms, and botfly larvae parasitize *Tamias striatus*. Longevity is 2-3 years in the wild, 5-8 in captivity.

POPULATION

The eastern chipmunk is common throughout its range. The number of individuals in a given area may fluctuate year to year, probably in relation to food supplies. Some researchers estimate the average population at two to four chipmunks per acre of adequate habitat. Predation does not usually have a great effect on local populations.

Chipmunks are omnivorous and can tolerate a wide range of living situations. As far as we know, their population is holding steady. They are among our most common and best known mammals.



HABITAT

Optimum chipmunk habitat is open deciduous woods with plenty of stumps and logs. Chipmunks are also found along woods borders grown with thick understory and briars; on rocky ledges covered with vines and brush; in and around stone walls; in fencerows; in mature forests with little understory; in farm woodlots; on brushland; in rubbish heaps and dumps; under camps, barns, and outbuildings; in city parks and suburban gardens. Few chipmunks inhabit swamps or marshland.

Habitat, for chipmunks and most other forms of wildlife, is constantly changing. If a beaver dam floods a wooded valley, chipmunks will move out; if a farmer lets his pasture grow into woods, chipmunks will immigrate from bordering fencerows.

Overall, habitat is shrinking as shopping centers, housing developments, second homes, and highways cover once-open land. Chipmunks can adapt to some change. Unfortunately, many other wildlife species—both game and nongame—cannot.

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